

We claim:

1 1. A method for providing a user with access to multiple accounts using a common
2 password which is valid for each of the multiple accounts, wherein each of the multiple accounts
3 has associated with it a unique designated password, the method comprising:

4 generating a designated password which is to be associated with at least one of the user's
5 multiple accounts;

6 receiving login information from the user for the at least one of the user's multiple
7 accounts, wherein the login information includes a user ID belonging the user and the user's
8 common password; and

9 determining if the user has provided valid login information based on a comparison
10 which takes into the account the user's ID, common password and the designated password
11 generated for the at least one of the user's multiple accounts.

1 2. The method of claim 1, wherein the designated password is generated by a hash function
2 of the common password and some account-dependent information.

1 3. The method of claim 2, further comprising:
2 forming a symmetric key from the results of the hash function.

1 4. The method of claim 3, wherein the symmetric key is used to encrypt the random
2 number.

1 5. The method of claim 4, wherein the random number is encrypted via a symmetric
2 encryption algorithm.

1 10. A method for providing access to multiple online accounts via a common password, the
2 method comprising:

3 receiving a common password associated with an online account; and

4 determining if the universal password is valid for the associated online account based
5 upon a designated password which was previously generated for the associated online account,
6 wherein the designated password was previously generated based upon a password transform
7 calculation.

1 11. The method of claim 8, wherein the password transform calculation is based upon a user
2 ID for the associated online account, the universal password, a server name and a random
3 number.

1 12. The method of claim 9, wherein the password transform is represented by a text
2 conversion of the following hash function:

$$\text{Hash}(U_i + P_c + S_i + N_r)$$

3
4
5 where U_i stands for a user ID, P_c for a common password, S_i for a server name and N_r for a
6 random number.

1 13. The method of claim 8, further comprising:

2 generating a designated password for each of the multiple online accounts which is
3 accessible via the common password.

1 14. A method for providing access to multiple Web accounts via a universal password which
2 is valid for the multiple Web accounts, the method comprising:

3 providing a designated password for each of the multiple Web accounts;
4 receiving the universal password for access to at least one of the multiple Web accounts;
5 determining if the universal password is valid based on the associated designated
6 password for the at least one of the multiple Web accounts; and
7 providing access to the at least one of the multiple Web accounts provided the universal
8 password is valid.

1 15. The method of claim 14, wherein the designated password is calculated for each of the
2 multiple Web accounts based on a hash function which incorporates the universal password as an
3 input to the hash function.

1 16. The method of claim 15, wherein the hash function also incorporates a user ID and an
2 account server name as inputs to the hash function.

1 17. The method of claim 15, wherein the hash function also incorporates a random as an
2 input to the hash function.

1 18. The method of claim 14, wherein determining if the universal password is valid based on
2 the associated designated password for the at least one of the multiple Web accounts includes:

3 receiving a user ID;
4 retrieving an encrypted random number based on the user ID;
5 receiving the associated designated password; and
6 comparing the received associated designated password with a corresponding saved
7 designated password for the at least one of the multiple Web accounts.

1 19. The method of claim 14, further comprising:
2 providing a new designated password for the at least one of the multiple Web accounts if
3 requested.

1 20. The method of claim 14, wherein providing a new designated password for the at least
2 one of the multiple Web accounts if requested includes:
3 generating a random number; and
4 calculating the new designated password based on at least the universal password and the
5 random number.

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